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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,238	12/12/2003	Hua-Jan Lo	3304.2.105	3151

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EXAMINER

TRAN, ANH Q

ART UNIT PAPER NUMBER

2819

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/736,238

Applicant(s)

LO ET AL.

Examiner

Anh Q. Tran

Art Unit

2819

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-19 is/are rejected.
- 7) ☒ Claim(s) 4 and 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/17/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1- are rejected under 35 U.S.C. 102(e) as being anticipated by Morgan et al (6,744,280).

Morgan shows:

1. A low voltage differential signaling transmitting device (Fig. 5), comprising:  
a signal driving circuit (280) for generating and outputting an analog image signal to an LVDS receiving device (col. 1); and  
a signal compensation circuit (230, 240) in communication with said signal driving circuit, generating a compensation signal (18) in response to said analog image signal and a base signal (VBG), and feeding said compensation signal back to said signal driving circuit to adjust said analog image signal.
2. The LVDS transmitting device according to claim 1 wherein said signal compensation circuit comprises:

a voltage-to-current converting circuit (MN12, MP13, MP14, MP19, MN15) for outputting said compensation signal as a current type in response to said analog image signal and said base signal; and

a first (MN16) and a second (MP8) current mirror circuits for feeding said compensation signal back to said signal driving circuit, wherein said first current mirror circuit is coupled to said voltage-to-current converting circuit and ground (GND), and said second current mirror circuit is coupled to said first current mirror circuit, a power source (VCC) and a differential signaling circuit (connected to the gate of MP55) of said signal driving circuit.

3. The LVDS transmitting device according to claim 2 wherein said voltage-to-current converting circuit outputs said compensation signal according to a voltage difference between said analog image signal (VCM) and base signal (VBG).

6. The LVDS transmitting device according to claim 2 wherein each of said first (MN15-MN16) and said second (MP8 & MN5) current mirror circuits includes two transistors.

7. The LVDS transmitting device according to claim 2 wherein said signal compensation circuit further comprises a first (R11) and a second (R12) shunting resistors electrically connected between said signal driving circuit and said voltage-to-current converting circuit for shunting said analog image signal before said analog image signal is transmitted to said voltage-to-current converting circuit.

8. The LVDS transmitting device according to claim 1 wherein said signal driving circuit is electrically connected to two serially connected resistors (R11-R12) of said

Art Unit: 2819

LVDS receiving device for transmitting said analog image signal with a swing of 300 mv -350 mv to said LVDS receiving device (col. 1, lines 24-27).

9. The LVDS transmitting device according to claim 1 wherein said base signal is a band-gap voltage signal generated by a band-gap circuit (col. 5, line 11).

10-17. The limitations of claims 10-17 are rejected as above claims, and a specified current source (MP55) connected between the power source and the differential circuit.

18-19. The apparatus described above is applicable to the method claims.

#### ***Allowable Subject Matter***

3. Claims 4-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


5. Yamauchi (6,356,141) discloses a LVDs driver having current compensation circuit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh Q. Tran whose telephone number is 571-272-1813. The examiner can normally be reached on M-TH (7:00-5:30) Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Tokar can be reached on 571-272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**ANH Q. TRAN**  
**PRIMARY EXAMINER**



4/1/05